

Project Title	Funding	Location
<b>Forest Products</b>		
Use of Residual Solids from Pulp and Paper Mills for Enhancing Strength and Durability of Ready-Mixed Concrete	\$250,000	Univ. of Wisconsin-Milwaukee Milwaukee, WI
Environmental Assessment of Low Temperature Plasma Technologies for Treating VOC's from Pulp Mills and Wood Products Plants	\$876,000	Univ. of Illinois Urbana, IL
High Selectivity Oxygen Delignification	\$722,000	Institute for Paper Science and Technology Atlanta, GA
Non-process Element Removal Using Functionalized Monolayers on Mesoporous Supports	\$560,000	Pacific Northwest National Lab Richland, WA
Bubble Size Control to Improve Oxygen-Based Bleaching	\$487,000	Institute for Paper Science and Technology Atlanta, GA
Increasing Yield and Quality of Low Temperature, Low Alkali Kraft Cooks with Microwave Pretreatment	\$900,000	Oak Ridge National Lab Oak Ridge, TN
Application of a Device for Uniform Web Drying and Preheating Using Microwave Energy	\$701,000	Institute for Paper Science and Technology Atlanta, GA
3D Characterization of the Structure of Paper and Paper Board	\$247,000	Univ. of Minnesota St. Paul, MN
Acoustic Separation Technology	\$150,000	Institute for Paper Science and Technology Atlanta, GA
Development of Screenable Pressure Sensitive Adhesives	\$596,000	Univ. of Minnesota St. Paul, MN
Surfactant Spray: A Novel Technology to Improve Flotation De-inking Performance	\$593,000	Institute for Paper Science and Technology Atlanta, GA
Preventing Strength Loss of Unbleached Kraft Fiber	\$180,000	North Carolina State Univ. Raleigh, NC
Mechatronic Design and Control of a Waste Paper Sorting System for Efficient Recycling	\$240,000	North Carolina State Univ. Raleigh, NC
Evaluation and Development of a Prototype Electrokinetic Sonic Amplitude System	\$947,000	Pacific Northwest National Lab Richland, WA

Model-based Approach to Soft Sensing and Diagnosis for Control of a Continuous Digester	\$896,000	University of Delaware Newark, DE
<b>Plant-wide Energy Assessments</b>		
	\$65,000	Alcoa Inc. Lafayette, IN
	\$75,000	AMCAST Industrial Corp. Dayton, OH
	\$75,000	Boise Cascade Corp. Boise, Idaho
	\$75,000	Caraustar Charlotte, NC
	\$75,000	Crucible Specialty Metals Syracuse, NY
	\$75,000	Georgia-Pacific Palatka, FL
	\$75,000	Inland Paperboard and Packaging Rome, GA
<b>Metal Casting</b>		
ZCA-9 Creep Resistant Alloy Development	\$394,000	International Lead Zinc Research Organization, Research Triangle Park, NC
Clean, Machinable, Thin-Walled, Gray and Ductile Iron Casting Production	\$419,000	Univ. of Alabama at Birmingham Birmingham, AL
Effect of Die Design and Dimensional Features on Thermal Fatigue Cracking of Die Casting Dies	\$390,000	Case Western Reserve Univ. Cleveland, OH
Optimization of Composition and Heat Treating of Die Steels for Extended Lifetime	\$95,000	Case Western Reserve Univ. Cleveland, OH
The Development of Surface Engineered Coatings for Die Casting Dies	\$820,000	Colorado School of Mines Golden, CO
Investment Shell Cracking	\$113,000	Tri-State University Angola, IN
Age Strengthening of Gray Cast Iron – Phase III	\$196,000	Tri-State University Angola, IN
Advanced Lost Foam Casting Technology, Phase V	\$991,000	Univ. of Alabama at Birmingham Birmingham, AL

Understanding the Relationship Between Filling Pattern and Part Quality in Die Casting	\$311,000	Ohio State Univ. Columbus, OH
Sensors for Die Casting	\$360,000	CMI-Tech Center, Inc. Ferndale, MI
Computer Modeling of Shot Sleeves	\$63,000	Ohio State Univ. Columbus, OH
Heat Treatment Procedure Qualification for Steel Castings	\$387,000	Pennsylvania State Univ. University Park, PA
Ergonomic Improvements for Foundries	\$129,000	Iowa State Univ Ames, IA
Development of a Fatigue Properties Data Base for Use in Modern Design Methods	\$210,000	Climax Research Services Farmington Hills, MI
Energy Consumption of Die Casting Operations	\$265,000	Ohio State Univ. Columbus, OH
The Effects of Externally Solidified Product on Wave Celerity and Quality of Die Cast Products	\$450,000	Ohio State Univ. Columbus, OH
Clean Cast Steel Technology	\$662,000	Univ. of Alabama at Birmingham Birmingham, AL
<b>Steel</b>		
Controlled Thermo-Mechanical Processing of Tubes and Pipes for Enhanced Manufacturing and Performance	\$3,258,000	The Timken Co. Canton, OH
Research Related to the Development of the Automated Steel Cleanliness Tool	\$2,092,000	RJ Lee Group, Inc. Monroeville, PA
Development and Demonstration of Novel Low-No <sub>x</sub> Burners for Boilers in the Steel Industry	\$960,000	Institute of Gas Technology (IGT) Des Plaines, IL
<b>Mining</b>		
Selective Flocculation of Fine Mineral Particles	\$264,000	U.S. Dept. of Energy, Albany Research Center Albany, OR
Robotics Technology for Improving Mining Productivity	\$450,000	Idaho National Engineering and Environmental Lab Idaho Falls, ID
Development of a Mine Compatible LIBS Instrument for Ore Grading	\$238,000	Idaho National Engineering and Environmental Lab Idaho Falls, ID
Development of a 3-Dimensional Version of the Millsoft Simulation Software	\$300,000	Idaho National Engineering and Environmental Lab Idaho Falls, ID

Drilling and Blasting Optimization Using Seismic Analysis and X-Ray Fluorescence Spectroscopy	\$720,000	Lawrence Berkeley National Lab Berkeley, CA
The Application of High Temperature Superconductors to Underground Communications	\$1,071,000	Los Alamos National Lab Los Alamos, NM
Mineral Byproduct Recovery	\$464,000	Oak Ridge National Lab Oak Ridge, TN
Development and Deployment of On-Board Lubrication Oil and Hydraulic Fluid Analysis Systems	\$850,000	Pacific Northwest National Lab Richland, WA
Crosswell System for Imaging Ahead of Mining	\$212,000	Sandia National Lab Albuquerque, NM
Safe and Low Cost Hydrogen Storage for Fuel Cell Mining Vehicles	\$705,000	Savannah River Technology Center Aiken, SC
<b>Aluminum</b>		
Integrated Numerical Methods and Design Provisions for Aluminum Structures	\$436,000	Cornell University Ithaca, New York
Development of a Novel Non-Consumable Anode	\$1,689,000	Ohio State Univ. Columbus, Ohio
Intelligent Potroom Operation: Improved Control of the Aluminum Refining Process	\$2,303,000	Applied Industrial Solutions Fairmont, WV
Spray Rolling Aluminum Strip	Funds TBD	University of California, Irvine Irvine, CA